



Egyptian Society of Rheumatic Diseases
The Egyptian Rheumatologist

www.rheumatology.eg.net
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CASE REPORT

Sacrum Pott's disease: A rare location of spine tuberculosis



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Received 7 January 2014; accepted 12 February 2014

Available online 15 March 2014

KEYWORDS

Pott's disease;
 Spine tuberculosis;
 Sacrum;
 Lower back pain;
 TB;
 Black Africa

Abstract *Background:* Spinal tuberculosis is a common form of musculoskeletal tuberculosis. However, a tubercular involvement of the sacrum is very rare.

Aim of the work: The aim of this case report is to describe a rare case of tuberculosis of the sacrum.

Case report: A 37-year-old man was referred to the Rheumatology department of the regional teaching hospital of Lomé, Togo for a 9 month history of low-grade fever, pain and swelling of the sacral region. X-ray and computerized tomography (CT) scan of the sacrum revealed an osteolytic lesion. Cold abscess aspiration cytology was negative for acid-fast bacilli but Polymerase Chain Reaction (PCR) using the Xpert MTB/RIF (*Mycobacterium tuberculosis*/resistance to rifampicin) diagnostic test was positive in revealing *M. tuberculosis*. The evolution under specific antibiotic treatment has been favorable, with the disappearance of sacral pain and a weight recovery of 20 kg in 12 months.

Conclusion: Isolated sacral tuberculosis is rare but a high degree of suspicion is needed in the presence of atypical clinical and radiological features of a sacral lesion particularly in Black Africa.

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1. Introduction

The proportion of spinal tuberculosis (TB) to all TB cases varied from 1% to 5% [1]. Spinal tuberculosis is the most common form

of skeletal tuberculosis, constituting approximately 50% of all cases [2]. The most frequent region of the vertebral column involved by tuberculous infection is the dorso-lumbar [3–7]. Even in large series, no patient had an isolated sacral form of tuberculosis [4–6]. Studies on cases with isolated form of tuberculosis affecting the sacrum are rare [3,8–11]. The usual presentation is a chronic low back pain, a fistula or abscess with or without neurologic deficit [11]. Despite increasing availability of better imaging techniques, extra-pulmonary tuberculosis remains a difficult diagnosis to make, due to its often non-specific and pro-

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Peer review under responsibility of Egyptian Society of Rheumatic Diseases.

<http://dx.doi.org/10.1016/j.ejr.2014.02.001>

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tean manifestations [8,12]. We report a new case of Pott's disease localized in the sacrum.

2. Case report

A male patient of 37-year-old with no particular past medical history was referred to the Rheumatology department of the Regional Teaching Hospital of Lomé in Togo for a 9 month history of mild pain over lower back region, the pain was inflammatory and aggravated while sitting or squatting. The other associated symptoms were the Buttock pain, trochanter region pain and groin pain. He also gave history of sacral region swelling for the past 4 months, and 15 kg weight loss of weight during 9 months. The patient took paracetamol and diclofenac for a period of 2 month but he did not get any relief. There was no tuberculosis contagion found, no fever, or cough. The patient had not received the Bacillus Calmette–Guérin (BCG) vaccine against TB. The patient had no history of predisposing factors for Pott's disease e.g. the patient was not immune-compromised and had no general disease as kidney disease, diabetes mellitus or sickle-cell anemia. On physical examination, the patient had a combination of asthenia, weight loss and pallor, but was afebrile, and had no abnormality on chest or abdominal examination. The patient had no symptoms of conal or epiconal lesions. On local examination, there was a swelling over the sacral region. The temperature of the swelling was not raised.

Radiograph of the lumbo-sacral spine lateral view and CT scan of the pelvis showed osteolytic lesion with irregular edges and discreetly heterogeneous beach of sacrum extending from S2 to S5 level leading to the provisional diagnosis of bone tumor (Fig. 1). An aspiration of the sacrum region collection allowed the bacteriological study with research of tuberculosis. Direct examinations and the culture were negative. Polymerase Chain Reaction (PCR) using the Xpert MTB/RIF (*Mycobacterium tuberculosis*/resistance to rifampicin) diagnostic test done on the cold abscess fluid was positive in revealing *M. tuberculosis*. With the presence of cold abscess, chronic infective etiology like tuberculosis was considered as a differential diagnosis and confirmed by the positive Xpert MTB/RIF diagnostic test. X-ray chest, however revealed no evidence of any pulmonary tuberculosis. Other Laboratory investigations showed a total leukocytic count of $9700/\text{mm}^3$ with neutrophils

(47%) and lymphocytes (53%), hemoglobin was 8.2 g/dl, while erythrocyte sedimentation rate (ESR) was 110 mm/1st h. Markers for HIV and hepatitis B surface antigen were negative. The patient received a TB treatment involving four drugs: Isoniazid (5 mg/kg/day); Rifampicine (10 mg/kg/day); Pyrazinamide (30 mg/kg/day) and Ethambutol (25 mg/kg/day) during 2 months followed by 10 months of a double association (Isoniazid (5 mg/kg/day) and Rifampicine (10 mg/kg/day) that corresponds to the standard treatment provided in our department. The surgical treatment was not needed. This treatment allowed a full recovery, and the patient was asymptomatic at the last follow-up after 1 year. We observed a 20 kg weight regain in 12 months. Hemoglobin was 12.1 g/dl and ESR was 12 mm/1st h. The follow-up CT scan after treatment was not performed because of lower socioeconomic level of the patient.

3. Discussion

Spine tuberculosis remains a frequent disease in developing countries [3–6]. The dorsolumbar spine is the seat of choice (95%), whereas the cervical spine is affected in only 5% of the cases [6]. Tuberculosis of the sacrum is rarely reported [3,8–11]. This scarcity is even more striking in our context, as Pott's disease is the first cause of spondylodiscitis in Africa [5]. Thus, none of the 169 cases of spinal TB from Togo [5] and 147 patients with TB of the spine from Ivory Coast [4] had a sacral lesion. Only 2% of 104 patients with TB of spine from South Africa have a sacral lesion [3]. The diagnosis can be easily delayed because of non-specificity of clinical signs and can suggest numerous other disease entities in particular malignancy [8–10]. The time lapsed till TB diagnosis was 9 months in our case. In the literature the mean of this time was 6.5 ± 2.5 months with a range from 3 to 12 months [1,8–10]. Isolated sacral tuberculosis is rare but it should be the first and foremost differential diagnosis in the presence of atypical clinical and radiological features of a sacral lesion particularly in developing countries. The most common presenting symptoms are non-specific pain and swelling. Consequently, skeletal tuberculosis frequently mimics neoplasias like chordoma and osteoclastoma [8,9], or sometimes metastasis leading to incorrect initial diagnosis and delay in the institution of treatment.

In the present case, with the presence of cold abscess, chronic infective etiology like tuberculosis was considered as

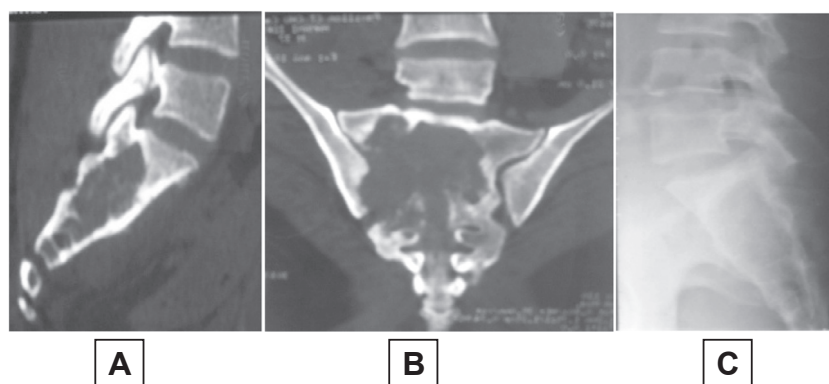


Figure 1 Osteolytic lesion with irregular edges and discreetly heterogeneous beach: A = sagittal reconstruction CT scan; B = coronal reconstruction CT scan; C = X-ray lumbar spine lateral view.

a differential diagnosis. However, in our environment where the technical level is insufficient or missing, the diagnosis of Pott's disease is often a presumptive diagnosis based of clinical data, computer tomography and treatment [4,13]. Diagnosis is often established after culture of mycobacterium from surgical biopsies because direct microscopic examinations are often negative, as in our patient. Molecular biology techniques can also be used to detect and identify the main species of mycobacteria as in our patient. Medical treatment involves a combination of four drugs: rifampicine, isoniazide, pyrazinamide and ethambutol, during 2 months, followed by bithérapie. Regarding treatment there are different opinions in the literature. Many workers prescribe chemotherapy for 6 months while some continue it for 9–18 months [1,14,15]. The total duration of antituberculous therapy was 12 months in our patient with a favorable evolution. In conclusion, isolated sacral tuberculosis is rare but high degree of suspicion is needed in the presence of atypical clinical and radiological features of a sacral lesion particularly in Black Africa.

Competing interests

The authors declare that they have no competing interests.

Conflict of interest

The authors have no conflict of interest to declare.

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